

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

We claim:

1-17. (cancelled)

18. (new) A method of manipulating neuronal ion channels, comprising:
transfecting a fast-spiking neuronal cell, wherein said fast spiking neuronal cell is capable of sustained high frequency discharge without significant accommodation, and wherein said cell comprises a co-assembled complex of mammalian Kv3.1, Kv3.2, Kv3.3 and Kv3.4, with a vector encoding an siRNA directed against an mRNA encoding a mammalian Kv3.4 protein wherein said siRNA is capable of inhibiting Kv3.4 expression in said cell, and wherein said inhibition of Kv3.4 expression results in a decrease in said sustained high frequency discharge in said cell.

19. (new) The method of claim 18, further comprising the step of transplanting said cell into a subject.

20. (new) The method of claim 18, wherein said frequency is greater than 100 Hz.

21. (new) The method of claim 18, wherein said frequency is greater than 150 Hz.

22. (new) The method of claim 18, wherein said siRNA has the nucleotide sequence described by SEQ ID NO:3.

23. (new) The method of claim 18, wherein said siRNA has the nucleotide sequence described by SEQ ID NO:4.

24. (new) The method of claim 18, wherein said mammalian Kv3.4 is rat.

25. (new) The method of claim 18, wherein said mammalian Kv3.4 is human.